



National Aeronautics and  
Space Administration

**New Millennium Program**  
Jet Propulsion Laboratory  
California Institute of Technology

# New Millennium Program Guidelines

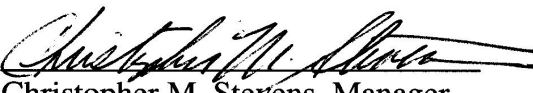
For Preparing

Project Level-1 Requirements

October 29, 2001

Version 0

## New Millennium Program Guidelines for Preparing Project Level-1 Requirements

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New Millennium Program

# New Millennium Program Guidelines For Preparing Project Level-1 Requirements

Reference: NMP Program Plan paragraph 5.1.1

## 1.0 Purpose

The Project Level-1 Requirement (PLR) document serves as the basis for assessments conducted by NASA Headquarters (HQ) during the Implementation Phase of a New Millennium Program (NMP) project and provides the baseline for determining success during the technology flight validation phase.

## 2.0 General Guideline

The NMP project drafts its level-1 requirements and presents them for review during the NMP Confirmation Assessment (CA) process. Approval will follow a successful NASA HQ Confirmation Review (CR). The PLR document is required for a project to advance from formulation to implementation. Once approved, the PLR document is incorporated into the Program Commitment Agreement (PCA)--the agreement between the Enterprise Associate Administrator and the NASA Administrator. It is also added as an appendix to the NMP Program Plan. These actions confirm the performance objectives and resource constraints for the NMP flight validation project—the “Big Deal”.

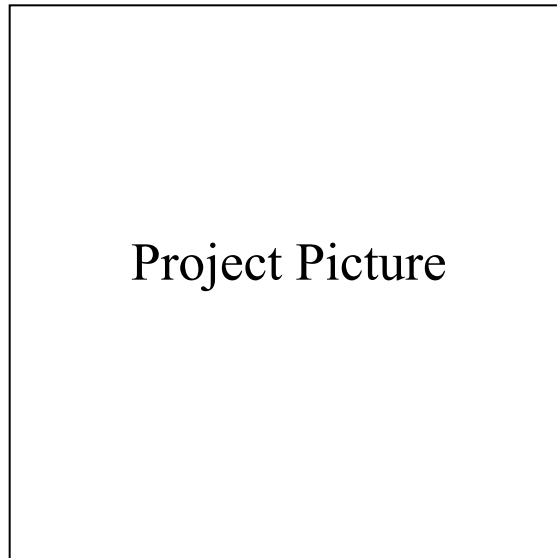
This guideline prescribes the general format and content for the PLR document (Attachment 1, *Project Level-1 Requirements Document Template*) and the administrative process to obtain concurrence and approval (Attachment 2, *Administrative Steps for Review and Approval of PLRs*). Variations may be used depending on the requirements of the implementing center for the NMP project. Content should strive toward clarity and brevity—short unambiguous statements of objectives and requirements. Projects are encouraged to seek NMP Office assistance in coordinating and processing the PLR document through the review and approval activities with NASA HQ.

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Attachment 1, Project Level-1 Requirements Document Template

## COVER PAGE

**Appendix A-<insert next number>**



Project-Level-1 Requirements

Appendix [insert appendix #] to the New Millennium Plan  
Program Level Requirements  
for [enter project name ST8, ST9, etc.]

Use the following outline for preparing New Millennium Program Project Level-1 Requirements:

## **1.0 SCOPE**

Identify the project, technologies for flight validation, and programmatic requirements to be fulfilled by collaborating NASA Centers, industry partners, and technology providers associated with the project.

The scope should indicate the delegation of Program authority from HQ to lead NASA Center and to the implementing Center. The responsibility of the Project Manager in terms of overall success of Project technology flight validation objectives and technology provider accountability to the project should be stated.

## **2.0 TECHNOLOGY VALIDATION DEFINITION**

### **2.1 Technology Flight Validation Objectives**

State the baseline technology flight validation objectives.

### **2.2 Description of Technology/Measurement Concept**

Provide a summary description of the technologies/measurement concepts to be validated.

## **3.0 PROJECT DEFINITION**

### **3.1 Project Organization & Management**

Provide clear insight into the management responsibilities of the project institutional partners.

### **3.2 Project Acquisition Strategy**

This section should make reference to a high-level product breakdown structure and should clearly identify all systems, subsystems, and technologies to be acquired by the Project.

## **4.0 PROGRAMMATIC REQUIREMENTS**

### **4.1 Technology Validation/Measurement Requirements**

#### **4.1.1 Baseline Technology Validation/Measurement Requirements**

The <named> Project shall:

4.1.1.1 Technology # 1 requirements:

4.1.1.2 Technology # 2 requirements:

4.1.1.n Technology # n requirements:

#### **4.1.2 Full Project Success Criteria /Measurement Requirements**

4.1.2.1 Technology #1 requirement

4.1.2.2 Technology #2 requirement

4.1.2.n Technology # n requirement

#### **4.1.3 Minimum Project Success Criteria/Measurement Requirements**

4.2.3.1 Technology #1 requirement

4.2.3.2 Technology #2 requirement

4.2.3.n Technology # n requirement

#### **4.1.4 Science goals:**

Although the purpose of the NMP is validate new advance technology in space, projects may also return valuable science data to the extent possible within cost and other project constraints. Accordingly, this section should identify the measurement instruments and associated high-level science goals that will be required to validate the project success criteria.

### **4.2 Project and Spacecraft Performance Requirements**

State the high-level requirements (e.g., the <named> spacecraft/measurement instrument shall be designed for at least a 3 month technology flight validation experiment.)

### **4.3 Launch requirements**

Indicate the planned launch date and specify launch period requirements, as appropriate.

#### **4.4 Ground Data System Requirements**

Identify the Ground Data Systems needed and when they will be needed to achieve the technology flight validation objectives of the project.

#### **4.5 Science Data Management**

When the science goals are included in the PLR, identify responsibility for science data processing, access, and storage. Identify major repositories to be used for archiving. Enumerate the rules for data control when a designated/controlled repository is not used.

### **5.0 NASA PROJECT COST REQUIREMENTS**

#### **5.1 Cost Cap**

Identify any cost cap constraints such as (e.g., launch costs, or the cost of the <named> project). Cost caps may be in terms of either a cost profile by fiscal year or an overall cap.

#### **5.2 Cost Management and Scope Reduction**

Provided that project-level requirements are preserved, and that due consideration has been given to the use of budgeted contingency and planned schedule contingency, the <named> Project shall pursue scope reduction and risk management as a means to control cost. The <named> Project shall develop planned options for scope reduction including the time frame within which such scope reduction could be considered for implementation. If other methods of cost containment are not practical, the reductions identified in the Project Plan may be exercised without further NASA approval; however, reduction in the technology validation objectives shall require the concurrence of the NMP Manager. Any potential scope reductions affecting overall requirements set forth in this Project Plan shall require approval in accordance with the Program Plan.

### **6.0 MULTI-MISSION NASA FACILITIES**

Identify project plans for use of multi-mission NASA facilities including any project policy stating non-use.

### **7.0 EXTERNAL AGREEMENTS**

Identify all external agreements entered into by the project, or to be entered into, as contemplated by the project. Indicate any principal provisions either incorporated or to be incorporated into the same.

## 8.0 PUBLIC OUTREACH AND EDUCATION

The <named> Project shall develop and execute an Education and Public Outreach Plan consistent with information provided as a part of the NASA Headquarters Mission/Confirmation Review.

## 9.0 SPECIAL INDEPENDENT EVALUATION

State any requirements in this regard. If none, state, "none required".

## 10.0 TAILORING

State any and all exceptions to policies in this Program Plan that may arise as a result of tailoring.

## 11.0 APPROVALS

_____ Project Manager	_____ Respective NASA HQ Program Executive
_____ New Millennium Program Manager	_____ Respective NASA HQ Division Director
_____ Responsible Implementing Center Manager	_____ Respective NASA HQ EAA
_____ Implementing Center Director	



<PROJECT NAME> Project Level-1 Requirements Changes Log

Note: Changes to the requirements contained in this document, require the approval of the respective NASA HQ Enterprise Associate Administrator.

Rev. #	Date	Item Changed	Description	Agreement